

However, it is difficult to translate that reduced potential into a dollar benefit.

The Deer and Elk Industries and the Impact of CWD

The number of deer and elk in the United States that have died as a result of contracting CWD is unknown, largely because there is no way to track deaths among the free-ranging segment of the population. However, sampling has suggested infection rates ranging from less than 1 percent among wild white-tailed deer in Wisconsin to up to 15 percent among wild mule deer in northeastern Colorado. For farmed animals, the number of deaths to-date has been relatively low. It is estimated that fewer than 100 farmed elk and no farmed deer have died as a result of contracting CWD. The number of farmed elk that have died is equivalent to less than one-tenth of 1 percent of the current U.S. farmed elk population, estimated at 150,000. However, for every infected animal, far more have been exposed to the disease.

Deer and elk are farmed for breeding stock, velvet antler, meat, and sales to game parks and exhibits. Velvet antler, considered a medical or dietary aid, is produced primarily for Asian markets. Deer and elk meat is a low-fat, low-cholesterol product, and when it is derived from captive herds (as opposed to meat harvested directly by hunters from wild populations) it is marketed primarily to gourmet restaurants, for consumption by health-conscious dieters. The breeding stock market satisfies the need for replacement animals.

NAEBA estimates that there are about 150,000 elk on 2,300 U.S. farms. The number of elk per farm varies, from a high of "500 plus" (for commercial farms) to a low of about 10 (for hobby farms). The value of each elk held also varies, depending on the type of animal (e.g., bull, heifer, calf), market conditions, and other factors. The average value of each elk is roughly estimated at \$2,500, with the typical high end value at about \$8,000. (The more valuable trophy animals hunted on game farms tend to be worth more than this average.) Based on the estimated average of \$2,500 per animal, the value of all 150,000 elk on U.S. farms is estimated at \$375 million ($150,000 \times \$2,500$). In 1999, gross receipts for the elk farming and velvet antler industry in North America totaled an estimated \$150 million.

NADFA estimates that there are about 550,000 deer on U.S. farms. Based on NADFA's estimate of 50 deer per farm, on average, the number of deer farms in the United States would total 11,000.

Assuming each farm has 2.1 employees, the average for deer farms in Indiana, employment on all of the estimated 11,000 deer farms would total 23,100. The number of deer per farm varies, from a high of about 3,000 (for commercial farms) to a low of about 5 (for hobby farms). The value of each deer also varies, depending on such factors as the type of animal (e.g., wapiti, white-tailed, fallow) and market conditions. An earlier NADFA estimate put the average per animal value of all deer on member farms at \$1,687, which would make the estimated value of all 550,000 deer on U.S. farms \$927.9 million ($550,000 \times \$1,687$). As of January, 2002, capital investment (including land, fencing) in white-tailed deer farms totaled an estimated \$2.5 billion.

Benefits of Proposed Rule

The proposed rule would benefit the national cervid industry, cervid product consumers, individual herd owners, and individual States. The effects on each are discussed below, and benefits for small businesses are directly addressed in the section "Analysis of the Economic Effects on Small Entities."

The proposed interstate movement restrictions that would allow only "program" deer and elk to be moved interstate would help to prevent the spread of CWD among both the farmed and wild populations. Participation in a certification program substantially reduces the risk of spreading CWD from one State to another, because only deer and elk that have been subject to certain minimum surveillance and other criteria could be moved interstate.

Preventing spread of CWD among deer and elk benefits entities and individuals that rely on those animals for their income, e.g., deer and elk farms, State agencies that sell hunting licenses, employees of motels and restaurants in hunting areas. It benefits individuals that rely on those animals for recreation and food. (A study by a sociologist in Wisconsin found that when the disease seems contained there is little hunter effect. However, if the disease becomes widespread, data in his study suggest that hunters will abandon the sport. Also, hunters from counties in which CWD positive animals were found were more likely to skip the 2002 gun season than were hunters from non-CWD counties.) Preventing disease spread also offers the potential for other, more far reaching benefits. Although there is no known relationship between CWD and other spongiform encephalopathies of animals or humans, bovine spongiform encephalopathy (BSE) has had an immense negative impact

upon European livestock systems. Action by USDA on CWD will demonstrate to our trading partners the seriousness with which we view the prevention and control of these types of diseases.

The outbreak of CWD in wildlife and farmed herds has motivated States to restrict the movement of elk and deer into States; and to start programs to control the disease within States. At this time, the various States do not follow a standard interstate movement policy, nor are there standards that would ensure equivalency between State CWD programs. This has resulted in a failure to maintain a nationwide marketing system under which healthy farmed elk and deer can be bought and sold throughout the United States. Producers of elk and deer are, therefore, generally limited to sales in their local marketing areas. The lack of a Federal CWD program has also limited U.S. producers' access to international markets for products such as antler velvet.

Based on the rate of increase in the number of infected herds in recent years, it is estimated that, without improved CWD control efforts, the disease could eventually infect almost all U.S. farmed elk herds. The elk industry is in its early stages, which requires owners to purchase and sell large numbers of animals for breeding stock as they develop superior lines. Such large movements of animals between herds exacerbates risks of disease spread. One herd in Colorado sold approximately 400 animals to many other herds in one year. In Canada, after CWD was discovered in 1996, movements of animals from one herd resulted in the infection of 38 other herds, which caused the Canadian government to buy and destroy 7,400 animals. While it is risky to extrapolate from limited data covering only a few years, the few herds studied in detail do suggest that CWD is easily spread through unrestricted commerce in elk, and could readily become established in most U.S. herds. Adoption of the proposed rule, therefore, could serve to protect substantial elk industry livestock assets, valued at an estimated \$375 million.

For farmers with infected deer and elk, the losses can extend far beyond the direct loss of livestock. They can also incur costs for the disposal of the animal carcasses, as well as costs for cleaning and disinfecting their premises. In some areas, positive animals have to be disposed of through costly incineration or digestion, since even landfills require a negative test before accepting a carcass for disposal.